

Remarks

The above Amendments and these Remarks are in reply to the Office Action mailed June 5, 2007.

I. Summary of Examiner's Rejections

Prior to the Office Action mailed June 5, 2007, Claims 1-18 were pending in the Application. In the Office Action, Claims 1-5, 10-13 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo (U.S. Patent No. 6,711,741) in view of Yao et al. (U.S. Patent No. 6,721,490). Claims 6-9, 14 and 16-18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo in view of Yao and further in view of Ceccarelli (U.S. Patent No. 6,222,532).

II. Summary of Applicants' Amendment

The present Response amends Claims, 1, 10 and 15-16, and adds new Claims 19-20, leaving for the Examiner's present consideration Claims 1-20. Reconsideration of the Application, as amended, is respectfully requested. Applicants respectfully reserve the right to prosecute any originally presented or canceled claims in a continuing or future application.

III. Claim Rejections under 35 U.S.C. § 103(a)

In the Office Action mailed June 5, 2007, Claims 1-5, 10-13 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo (U.S. Patent No. 6,711,741) in view of Yao et al. (U.S. Patent No. 6,721,490, hereinafter Yao). Claims 6-9, 14 and 16-18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo in view of Yao and further in view of Ceccarelli (U.S. Patent No. 6,222,532, hereinafter Cecarrelli).

Claim 1

Claim 1 has been amended to more clearly define the embodiment therein. As amended, Claim 1 defines:

- 1. A method for providing on-the-fly client-side indexing and navigation of video data, comprising the steps of:*
 - opening a main connection for a client-side device to receive transmissions of a data flow, wherein said data flow is not indexed;*
 - opening a second connection for the client-side device to receive at least one look-x data stream comprising a plurality of data from said data flow, wherein said*

*plurality of data is not indexed such that no frames in said data flow have been associated with any points in the look-x data stream;
indexing with the client-side device at least one point of the look-x data stream to at least one corresponding point in said data flow, wherein said indexing step with the client-side device further comprises determining a particular timeframe in said data flow and selecting on-the-fly at least one look-x point for display to represent the at least one corresponding point in said data flow at said particular timeframe and wherein selecting on-the-fly step includes automatically and without user intervention associating the look-x point with the point in said data flow while said data flow and said look-x data stream are being received at the client-side device; and
providing control of a playback position of said data flow based on the indexed points in the look-x data stream.*

Claim 1 has been amended as suggested by the Examiner in order to more clearly define certain features therein. As amended, Claim 1 defines two connections of un-indexed data flow opened for a client device. The main connection receives the main data flow and the second connection receives a look-x data stream, where the look-x data stream and the main data flow are not indexed to each other such that no frames in the data flow are associated with any points in the look-x data stream. Upon receiving the two incoming streams, the client-side device then indexes one into the other by selecting on-the-fly a look-x point to represent a corresponding point in the main data flow at a particular time frame. Claim 1 has also been amended to make clear that the step of selecting on-the-fly includes automatically (without requiring any user intervention) associating the look-x point with the point in the data flow while the data flows are being received at the client device. Thus, rather than already having pre-associated the data flow by the server, the client-device creates these associations on-the-fly, while the two streams of data are coming in.

The advantages of these features include the ability to start two regular streams of video and associate certain frames/points of one stream with another, without requiring the server to have provided these associations ahead of time (before reception). Furthermore, no user intervention is required to create these associations in the sense that the client side device can provide the frame association automatically at the time of receiving the data flows.

Yeo teaches a random access video playback system on a network. More particularly, Yeo appears to disclose a server that stores temporal snapshots of source video together with that video and then transmits those temporal snapshots (along with the video) to its client. As

discussed in the Office Action, the client-side device display module then displays the temporal snapshots in order to allow the user access to the video.

Yao, on the other hand, teaches a hierarchical storage scheme and data playback scheme for enabling random access to realtime stream data. More particularly, Yao was cited as teaching on-the-fly indexing based on user input patterns. For example, when the user input is in some prescribed pattern, potential future access to the video is estimated based on that pattern and the storage in the cache is controlled accordingly.

However, Applicants respectfully submit that Yeo in combination with Yao (hereinafter the cited references) fail to disclose or render obvious the features of Claim 1, as it has been amended.

For example, the cited references fail to disclose opening a second connection to receive a look-x data stream that has not been indexed such that no frames in said data flow have been associated with any points in the look-x data stream, as defined in amended Claim 1. In the Office Action, it was proposed that in Yeo, the indexing is not performed at the server, but rather in a display organizer 508, located within the user terminal. More particularly, the Examiner has interpreted the term indexing as creating/arranging an index (Office Action, p. 2). However, the present Response hereby amends Claim 1 so as to more clearly define “not indexed” as meaning that no frames in the main data flow have been associated with any points in the look-x data stream. The term indexing, as used in the present Specification is intended to mean the selecting/associating of various frames within the video. In Yeo, it is clearly shown that the temporal snapshots of the source video are generated and stored along with the source video on a server and then the server transmits the temporal snapshots to its client (Yeo, col. 1, lines 37-45). On the client-side, the snapshots are merely displayed to the user by the display organizer 508 (col. 4, lines 14-26). Therefore, Yeo fails to disclose that the two streams of data coming from the server are un-indexed, i.e. that no frames in the main data flow have been associated with any points in the look-x data stream, as defined in amended Claim 1. Rather, Yeo clearly contemplates these associations to be generated, stored and transmitted by the server.

Furthermore, the cited references fail to disclose that the associating of look-x points to the points in the main data flow is performed on-the-fly, while the two data streams are being received at the client-side device, as defined in amended Claim 1. In Yeo, the associations of frames to video clearly appears to be pre-computed (e.g. generated and stored on the server)

(Yeo, col. 1, lines 37-45). In Yao, on the other hand, there is no association of frames between two video streams performed at all, i.e. there is no associating of points in one video stream to points in another video stream on-the-fly, as defined in Claim 1. Instead, Yao merely appears to create indexes in one video stream based on user-input patterns so as to improve caching techniques. As amended, Claim 1 more clearly defines that look-x points in one data stream are associated with corresponding points in another data stream on-the-fly, while both data streams are being received at the client device. No such functionality is disclosed by either reference.

Furthermore, the cited references fail to disclose that the indexing on-the-fly of the data stream is performed automatically by the client-side device, without requiring user intervention, as defined in Claim 1. In the Office Action, Yao was cited as teaching on-the-fly indexing since the indexes were created based off where a user has indicated playback, as the index is not pre-created by the server but is instead created when a user indicates stop/playback (Office Action, p.3). As suggested by the Examiner, Applicants have amended Claim 1 to more explicitly define that the on-the-fly indexing is performed without requiring user intervention. More specifically, however, in Claim 1, on-the-fly indexing is performed by associating points of two different streams while the two streams are being received and this actual association is performed automatically without requiring user input. No such functionality is described in either of the cited references.

In view of the above comments, Applicants respectfully submit that Claim 1, as amended, is neither anticipated by, nor obvious in view of the cited references, and reconsideration thereof is respectfully requested.

Claims 10, 15 and 16

Claims 10, 15 and 16, while independently patentable, recite limitations that, similarly to those described above with respect to claim 1, are not taught, suggested nor otherwise rendered obvious by the cited references. Reconsideration thereof is respectfully requested.

Claims 2-9, 11-14 and 17-18

Claims 2-9, 11-14 and 17-18 are not addressed separately, but it is respectfully submitted that these claims are allowable as depending from an allowable independent claim, and further in view of the comments provided above. Applicants respectfully submit that Claims 2-9, 11-14

and 17-18 are similarly neither anticipated by, nor obvious in view of the cited references, and reconsideration thereof is respectfully requested.

It is also submitted that these claims also add their own limitations which render them patentable in their own right. Applicants respectfully reserve the right to argue these limitations should it become necessary in the future.

Claims 19-20

The present Response hereby adds new Claims 19-20. Applicants respectfully submit that the new Claims are fully supported by the Specification as originally filed and that no new matter is being added. Consideration thereof is respectfully requested.

IV. Conclusion

In view of the above amendments and remarks, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and reconsideration thereof is respectfully requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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